

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
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		115FM07		
SHEAR PLATE ASSEMBLY, ITEM 115 (PIVOTED, PLANAR) ----- SV778540-56 (1) OR (ORU) ----- SV824133-8 (1)	2/2	Fails to open PLSS shutoff valve.  Linkage mechanism deformed.	END ITEM: Failure to open primary oxygen regulator shutoff valve when O2 actuator is not in OFF position. Blockage of O2 flow path from oxygen tank to primary regulator.  GFE INTERFACE: Unable to pressurize the EMU with PLSS.  MISSION: Loss of use of one EMU. CWS issues a low suit pressure warning.  CREW/VEHICLE: None.  TIME TO EFFECT /ACTIONS: None.  TIME AVAILABLE: N/A  TIME REQUIRED: N/A  REDUNDANCY SCREENS: A-N/A B-N/A C-N/A	A. Design - The Item 115 shear plate contains the actuator cam which opens the PLSS shutoff valve poppet using the cam rise and direct linkages. The actuator link to the shutoff has a load capacity to yield stress of 160 lb while the actuation maximum force of the shutoff valve is 8 lb.  B. Test - Component Acceptance Test - None.  PDA Test - None.  Certification Test - Certified for a useful life of 20 years from the date of manufacture. Successful refurbishment will extend useful life to 30 years max. (ref EMUM1-0491, EMUM1-0027).  C. Inspection - Details are 100% inspected per drawing dimensions and surface finish characteristics. Details are manufactured from material with certified physical and chemical properties. All details, gases and test facilities are cleaned and inspected to HS3150 EM50A to preclude contamination clogging.  D. Failure History - None.  E. Ground Turnaround - Tested for non-EET processing per FEMU-R-001, V1103 Performance Data and Item 113 Regulator Check. FEMU-R-001 Para 8.2 EMU Preflight KSC Checkout for EET processing.  F. Operational Use - Crew Response - Pre/PostEVA: Trouble shoot problem. If no success, terminate EVA and consider use of third EMU if available. EMU is no go for EVA. Training - Standard training covers this failure mode. Operational Considerations - Flight rules define loss of EMU for loss of pressure regulation. EVA checklist procedures verify hardware integrity and systems operational status prior to EVA.

EXTRAVEHICULAR MOBILITY UNIT  
SYSTEMS SAFETY REVIEW PANEL REVIEW  
FOR THE  
I-115 SHEAR PLATE ASSEMBLY  
CRITICAL ITEM LIST (CIL)

EMU CONTRACT NO. NAS 9-97150

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